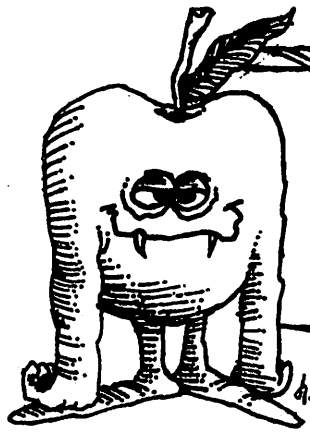


NORTHERN ILLINOIS APPLE USERS GROUP

$2.50

THE HARVEST

VOL4-NO. 12

DEC 1983

MEETING DATE Dec 3, 1983

10:00 am-1:00 pm Rm E106, Harper College

IN THIS ISSUE

Club Officers- -2

Members Aide- 3

Editorial - 4

Guest Editorial- -5

Letter to the Editor, David M. Alpert - - - - - - - - - - - - - - - - - - -6

Doc Apple's Never Ending Search for Speed and Power - - - - - - - - - - - - - 7

Additions to the Disk Library Index -13

Puzzle- -16

The New Apple DOS has Arrived, Well Almost, William C. Jacobson - - - - - - - 17

Apple Happenings, Terry Tufts- 19

The Apple Users Dilemma, Terry Tufts - - - - - - - - - - - - - - - - - - - 20

APA & PLE = A Good Mix, L. M. Erdman - - - - - - - - - - - - - - - - - - - 21

Odds & Ends, Evens & Means, Jim Glore- - - - - - - - - - - - - - - - - - - 21

SIG, BITS & BYTES, Ken Falter- 22

Club News -23

CLUB OFFICERS

President- Eric Stral ---------- 312-885-1941
Vice Pres- Rob Stewart ---------- 312-537-0544
Treasurer- Joe Sobel ---------- 312-398-1826
Secretary- Mary Rosemann ---------- 312-882-7938
Librarian- Joe Zeinz ---------- 312-526-0575

Newsletter Editor- Terry Tufts ---------- 312-392-7735

SIG Co-ordinator- Harry Maram ---------- 312-764-1847

Software Chairman- Jim Glore ---------- 312-843-3215

Hardware Chairman- Paul Stadfeld ---------- 312-359-2378

Program Chairman- Rob Stewart ---------- 312-537-0544

Steering Committee- Ted & Mary Rosemann --- 312-882-7938

Club Adresses:

MEMBERSHIP, etc. ---------- NIAUG,
1271 Dundee Rd,
Buffalo Grove, Il,
60067

NEWSLETTER ---------- Terry Tufts,
1015 S.Ridge Ave,
Arlington Heights, Il,
60005.
312-392-7735

LIBRARIAN ---------- Joe Zeinz,
305 Honeysuckle,
Island Lake, Il
60042
312-526-0575

BULLETIN BOARD ---------- 312-295-6926 24 hours
SYSOP-Dave & Joel
Alpert

Membership is open to all. Dues are $24.00 annually with a one time initiation fee of $5.00 at the time of admission. Membership applications are available from the club Secretary at the meetings or by mail.

NIAUG NEWSLETTER is published by the Northern Illinois Apple Users Group and edited by Terry Tufts. Contents may be reproduced by other Apple Clubs for their newsletters or bulletins except where specifically reserved by the author. Permission to copy these articles may be obtained by writing the author through our editorial offices. Please indicate Northern Illinois Apple Users Group, HARVEST, is the source of any material reproduced. Newsletter exchange is welcomed. The HARVEST recognizes that APPLE and APPLE manufactured products are trademarks of the APPLE Computer Company.

HAPPY HOLIDAYS

CORRECTIONS/CHANGES OF ADDRESS

Corrections/changes of address MUST be sent to the club secretary. Mailings are by bulk presorted third class mail. Any incorreect addresses will usually result in missed issues.

SUBMITTING ARTICLES

Handwritten articles are acceptable but articles on disk are preferred. Articles on a disk should use one of the following word processors: Easywriter, Applewriter, PIE or Magic Window. Use a 0 left margin and a line length of 47 characters for Easywriter and 41 for all others. Fill and right justify all text. Also supply a hard copy of the article for proof reading purposes. If your article includes a program listing please submit it on disk unless you have a printer that uses carbon film ribbon. All disks will be returned at the meeting unless requested to do otherwise.

MEMBERS AIDE

ADDITIONAL VOLUNTEERS REQUIRED TO FILL OUT THIS MEMBER SERVICE. IF YOU FEEL QUALIFIED IN ONE OF THE SUBJECTS BELOW PLEASE CALL THE EDITOR TO HAVE YOUR NAME ADDED TO THE LIST.

The members listed below have volunteered to answer questions from club members who need a "HOTLINE" type answer that can be handled over the telephone. Please try to be brief as a courtesy to them. PLEASE NO CALLS at dinner time or after 10 pm.

GENERAL	Paul Stadfeld	312-359-2378
	Earl Allen	312-837-9259
TECH NOTES	?	?
COMMUNICATION PACKAGES & MODEMS/TESECOM		
Apple Cat II	?	?
DC Hayes Micromodem	?	?
DC Hayes Smartmodem	?	?
ASCII Express	?	?
Transend	?	?
Data Capture	?	?
Visiterm	?	?
Compuserve	?	?
Source	?	?
HARD DISKS	?	?
Corona	?	?
Corvus	?	?
COMPILERS		
Tasc	?	?
Expediter	?	?
DATA BASES		
dBase II	?	?
DB Master	?	?
Data Perfect	?	?
Data Factory	?	?
General Manager	?	?
Infomaster	?	?
List Hander	?	?
Versaform	?	?
Visifile	?	?
PFS	?	?
EDUCATION SOFTWARE	Jim Bradshaw	312-881-7000
GAMES		?
GRAPHICS	Paul Stadfeld	312-359-2378
ACCOUNTING		
Home Accountant	?	?
BPI	?	?
INVESTMENT	John Hoffmann	312-98-0164
INVESTMENT	Jim Bradshaw	312-881-7000

LANGUAGES		
A,I	Ted Rosemann	312-882-7938
A,I	Mary Rosemann	312-882-7938
P,A,I	Joel Kurasch	312-677-8358
P	Herb Schulz	312-968-6927
A,I	Rich Lundeen	312-420-8468
M,A,I	Paul Stadfeld	312-359-2378
M,A,I	Guy Lyle	312-359-1458
M,A,I	Joe Zeinz	312-526-0575
M,A,I	Earl Allen	312-837-9259
A,I,P	Ken Nestle	312-620-7745
F	?	?
C	?	?
Logo	?	?
Pilot	?	?
SPREADSHEETS		
Multiplan	?	?
The Spreadsheet	?	?
Incredible Jack	?	?
VisiCalc	Eric Stral	312-885-1941
VisiCalc	Joe Sobel	312-398-1836
VisiCalc	Jay Toutenhoofd	312-359-1460
OPERATING SYSTEMS		
Apple DOS	Earl Allen	312-837-9259
CPM		
PRINTERS		
General	Terry Tufts	312-577-7381
Apple Dot Matrix	?	?
IDS	?	?
EPSON	?	?
NEC spinwriter	?	?
NEC 8023	?	?
ProWriter	?	?
Okidata	?	?
WORDPROCESSORS		
Easy Writer	Terry Tufts	312-577-7381
Apple Writer II-	?	?
Gutenberg	?	?
Letter Perfect	?	?
Magic Window	?	?
ScreenWriter II	?	?
Supertext II	?	?
Apple Pie	?	?
Word Handler	?	?
WordStar	?	?

EDITORIAL-THE SHAPE OF THINGS TO COME

Over the next few months you will be seeing what we hope will be a significant improvements in the Harvest. A number of members have come forward to volunteer their assistance to give us a much more rounded presentation. This will be reflected first in the masthead. As a way of spreading around the work we have picked out some specific subjects that each will concentrate their efforts. If you have a specific article in mind, just contact the person under the subject listed or myself and we will be happy to work with you.

We will be vigorously pursuing evaluations of new software and hardware. For this we will be contacting major suppliers for products to evaluate. We will be distributing these to you willing users for your honest examination and comments. For this process to be successful, we feel that we must have a procedure that co-operating vendors be allowed to comment and rebut any articles that we present. It will take a little longer to get an article published but it will give a much better balanced presentation.

This longer time cycle will require us to have certain material at least 2 months ahead of publication but this should not cause any inconvenience to the average reader.

If you have hardware or software that has never been reviewed, and feel like sharing information about it with your fellow club members, please write and article or contact someone from the Harvest and we will get a reviewer for you.

We also will be setting a few guidelines for rating the products to get a little uniformity in the reviews and to give you a little better perspective.

We are convinced that our new plans will greatly improve the Harvest and hope you will want to be a contributor. SEE THE GUEST EDITORIAL FOR MORE INFORMATION.

MASTHEAD CHANGES

As noted above, the masthead is going to be changed. It will b expanded to include the names of many more involved people. In some cases it will include subject headings without any names. This is an open plea for you to step forward and volunteer your knowledge and assistance. We will continue to list these and hope they will be filled as you see the vacancies. Don't forget that you probably are an expert if you use a particular package regularyly, even if you don't know it. Don't be shy to help a fellow member. Thats what the club is all about.

IBM GIVES CHRISTMAS PRESENT TO APPLE

by Terry Tufts

The press has been rampant with speculation about the IBM Peanut. IBM finally made and advance presentation of the PC Jr. In a somewhat similar tactic that is reminiscent of its marketing strategy in the mainframe world, it has released details of a new product months before it was available. In the past this has had the effect of causing people to defer purchases if they were planning to buy non IBM equipment. This was especially effective if the buyer strongly leaned toward IBM all other things being equal.

If this was their strategy it is likely to fail because it is much easier to defer buying a computer for corporate purposes than it is to tell a son or daughter that their Christmas gift will arrive a few months after Christmas, whenever IBM gets their act together.

In any case it appears that IBM, in their attempt to cripple the Jr so it doesn't compete directly with the PC, did too good a job. Texas Instruments was forced to replace their chiclet keyboard before they were considered a legitimate computer. Time will show whether IBM will be forced to follow suit. Their is some speculation that the product released will be radically different from the product announced, I believe its called flying a trial balloon.

In the meantime, Merry Christmas to Apple from IBM.

GUEST EDITORIAL (QUOTE WITHOUT COMMENT)
14 REASONS NOT TO WRITE ARTICLES

Reprint from MSB MAGAZINE
Adapted from an article by
LARRY FREEMAN
Abacus II May-June, 1982

1. I am just a beginner and do not know anything to write.
A. The club has many beginners and needs articles from them to prevent them from making the same mistakes you have.
B. The old-timers need an understanding of the beginners' problems.
C. A fresh view on old problems can develop into new solutions.

2. I don't have time.
A. If 1/10 of the members spent the average of 20 seconds a day, there would be 8 more new articles each issue. Surely you have 20 seconds to spare.

3. I am a poor speller.
A. The editors will attempt to correct all spelling mistakes so that your article will look nice.

4. I am a poor writer.
A. The editors will correct all flagrant grammatical errors and most of the non-flagrant ones. Yet, attempt to leave the flavor of your style in the articles.

5. I am so bad, I wouldn't want anything published.
A. We accept articles from Anonymus and Nom De Plume writers. This could by you.

6. I am not doing anything on the computer.
A. How about telling us why. What problems do you have with the computer?

7. All I do is a) play games, b) use it for business, c) use it for school, d) bought it for the kids, e) ETC.
A. Tell the club what programs you like and dislike and why.
B. Tell some of the problems you have with programs and their support.
C. Tell why you don't use the computer for more than you are now doing.
D. Tell what hardware you have looked at and what you think of it.
E. Tell what hardware you have bought and what you think of it.

8. I use it to develop programs for sale and I don't want anything released about them.
A. How about telling the problems of getting a program published.
B. Tell about a hard problem you solved.
C. Tell how you got in the business.

9. Everything has already been written about.
A. It has not.
B. A new article on a problem or idea that already has been published is required because we have new members and if it is still a problem it needs an article.

10. Why should I write?
A. Fame-your name will be known across the country.
B. It takes more than money (i.e. dues) to publish a newsletter--Articles should be inside of it.
C. Has someone in the club helped you with a problem? Pay the club back. Write an article about your solving of the problem.

11. I don't know how to submit an article.
A. The club would like the article on disk or tape or by the phone lines, but will make use of anything supplied. These can by brought to the club meeting or mailed to the editor at.... Mark your media clearly and it will be returned.

12. I don't have a word processor.
A. Anything that will create a text file can by used. There are some in the public domain (see your club librarian). Such things as the PASCAL editor, TED editor, or DOS Toolkit editor.

13. I don't have a modem to transmit the file.
A. You don't need one to use any of the above methods,

14. I am lazy and inconsiderate. All I want is to get the most out of the club I can.
A. This is the only one that can't be answered.

If you have decided to write an article, start today.

* * * * * * * * * * * *

David M. Alpert
880 Mellody Road
Lake Forest, Illinois 60045

14 November, 1983

Mr. Terry Tufts
Editor, Harvest Newsletter
Northern Illinois Apple Users Group
1015 S. Ridge Ave.
Arlington Heights, Il. 60005

Dear Mr. Tufts,

I read with great interest your call for a System Operator (SYSOP) for the Bulletin Board. Please accept this letter as my official application for that position.

Allow me to give you a short resume of my activities to better acquaint you with my credentials.

In January of 1979, I attended the second meeting of a new user group being formed. I joined the group immediately and have remained a member even since. In June of 1979 I was asked to begin a newsletter. I did so and continued publishing that newsletter for twenty months. After retiring from that position I served as President for one term.

Sometime during 1980 I took over the maintenance of the ABBS (Apple Bulletin Board System). When I realized that the ABBS software had become obsolete, I purchased PMS software and converted the system. When I felt there needed more storage space, I modified the software to operate on a ten megabyte hard drive. That software has supported the system and 60 programs for users to download. It has supported approximately 25-30 feature files that users are able to read covering a variety of topics.

The cost of software, computer, floppy drives, hard drives, peripherals and phone lines has never been passed on to the user group . Once the user group paid for a new power supply, but has never been asked to pay for anything else despite numerous repairs and replacements required (the system is up 24 hours per day).

There are two message systems available to callers; at one time one of them was devoted solely to that user group and the other devoted to the International Apple Core. That changed as the user group members did not use the system much. The second message system became a discussion board in which callers discussed topics of the day (politics, world events, etc). The main board became a typical message board.

David M. Alpert
880 Mellody Road
Lake Forest, Illinois 60045

All during these changes we continued to maintain a file containing the AGENDA of the user group. Unfortunately, we ran into some trouble. The user group stopped sending us the agenda and callers became frustrated because neither they nor we knew the date or content of the meetings. Our calls to those responsible fell on uncaring ears. Yet we continued to maintain the system. And when we can, we post the agenda and any other club business, we do.

As you can see, we certainly are experienced in this kind of thing. We do not need your kind offer of providing for hardware. Nor do we expect compensation. What we would insist on is the cooperation of the Officers and membership of NIAUG in providing programs and features for exchange among callers and the flow of information necessary to keep those callers up to date.

Sincerely,

Dave Alpert

P.S. If you want to try the system, please see the inside front cover of the Harvest Newsletter for the number. See.... we have been operating the system for NIAUG for three years now and some of you don't even know it!

DOC APPLE'S NEVER ENDING SEARCH FOR SPEED AND POWER

From NCSU Apple Users Group Newsletter, November, 1983

EDITORS NOTES

This very interesting article comes on the heels of the PDQ 68000 presentation and should help you get a better perspective on the improvements that such products can produce in your Apple. For those of you unfamiliar with bench mark testing, it simply is running programs that emphasize various functions and capabilities of a computer. Each program/test tries to measure a particular strength or weakness of the computer. They can be very misleading if you don't interpret the results carefully. As you can appreciate, the time to run a particular program depends on the language you are using, the amount of calculating you are doing, whether the program has been compiled, the speed/type of micro-processor, the efficientcy of the code you have used etc.,etc., and this is where you can some very misleading claims from manufactures.

I hope you find the information interesting and you get a better insight into what causes various programs to take the time they do and how some can be improved through software choices and how some hardware additions may benefit you.

Also very importantly, the author is not very well identified. I have a pretty good suspicion that it is John Russ a former NIAUG member and Harvest author, before relocating to South Carolina. He always writes very interesting and thorough articles and I would like to give him proper credit. If I have misidentified the author my apologies.>

By now, any more-or-less regular reader of this more-or less regular column knows that one of my recurring themes is "How to speed up the Apple". I am interrupting my continuing current series on hi-res graphics to bring you the latest chapter:

As I have mentioned before, my Apples are well endowed with co-processor cards, and while much of my programming is done in Applesoft, I am not averse to using other languages if the return on investment warrants it. So the comparisons you are about to see cover a number of the viable options. Some other comparisons that have been reported before are also repeated, for the sake of completeness.

I have included some non-Apple times as well. These are interesting in their own right as comparisons, and also reflect the approximate speed that can be expected using software available for the various co-processor cards (Z80, 8088, 68000) in the Apple, but which I do not have and didn't run for comparison. For instance, the IBM PC And Zenith versions of the 8088 show similar performance to each other, and should also be similar to the ALF 8088 card running MSDOS or CPM86 with Microsoft's or Digital Research's Basic.

First, it is necessary to define the benchmark. This is a little tricky, because there is no single benchmark program that can reflect all of the strengths and weaknesses of any particular machine (manufacturers each have their favorite ones that show their system off at its best). So what I've done is to use two very different programs, that each try to isolate a single type of computing. One deals almost exclusively with floating point arithmetic, which is highly important if you are crunching scientific data but rather unimportant for searching a data base. The other is a fairly pure test of moving and comparing numbers, and tests the efficiency of addressing, and so forth.

Each test reflects the overall efficiency of the hardware (processor, etc., but not the disk system since everything is done in memory), as well as the language used. I will make comments about this aspect of the tests as they are described. Note however, that I have not included test programs written in Assembly language. Certainly for the SIEVE test, discussed below, this would yield some phenomenal times (I have seen published reports of 1.83 seconds for a plain Apple). But for most of my programming needs, some high level language, with its ready access to disk files and floating point arithmetic, is a necessity. Machine language subroutines are useful in any processor environment to speed up time-critical operations, expecially when interfacing to a peripheral device, but that is not the subject of this particular column.

The first test is a series of transcendental mathematical functions. In Applesoft, the routine can by written:

```
100 A=0:  B=1:  C=2:  PRINT "START"
110 FOR J = 1 TO 1000:  R = SIN(C*ATN(B)):  S= LOG(EXP(C^A)):
    T = SQR (C^C):  NEXT J
120 PRINT "DONE!  X =" T-R-S:  END
```

The loop repeats the calculation 1000 times so that it can be accurately timed. The value printed out at the end should ideally be zero, because T equals 2 and R and S equal 1, but actually of course there will be a small error in the various functions used and one additional piece of information is the residual error that is printed out.

This test is named "FLOAT" in the table below. Note that the times (for 1000

repetitions) range from 21 to 683 seconds, in the various machines upon which I tried it.

The "residual" error is 4.65E-10 using Applesoft (and the other combinations which use the Applesoft ROM routines, such as compiled Applesoft). This is consistent with the 9-digit accuracy which Applesoft proclaims. With the ALF 8088 card, the value is -6.52E-9, a trifle larger. The probably identical FORLIB and BASLIB routines for the Z80 give 2.38E-7, and the single precision Pascal version gives -1.19E-7, exactly the same value as the 68000 Fortran (native code) routine on the Sage and the ZBASIC on the Zenith 8088. Double precision P-code from Pascal and Fortran gives -9.54E-15, a very small error indeed, but larger than the -1.06E-15 error in the double precision Model 100 Microsoft Basic! The MBASIC on the IBM and Zenith, and the Microsoft Z-80 card, report a residual error of zero, but I suspect that this hides the actual error magnitude for these single precision machines. It seems fair to say that all machines are delivering residuals smaller than the accuracy they claim to provide.

The second benchmark is the (in)famous Sieve of Eratosthenes, which finds the first 1900 prime numbers by searching up to 16384. The algorithm has been well described, and is shown written in Basic, Pascal, and a slew of other langulages, in the January, 1983 BYTE magazine. The article also includes reported times for a variety of machines, but there are some inconsistencies and errors. The principal problem is that again, in order to allow accurate timing, the process is repeated 10 times, but some of the reported values are apparently for a single pass. In Pascal, the routine looks like this:

```
Program Sieve;
Const
      size = 8190;
var
      flags:  array (0..size) of boolean;
      i,prime,k,count,iter:  integer;
begin
      writeln ('start!');
      for iter := 1 to 10 do begin;              (10 repetitions)
           count := 0                            (count primes)
           for i := 0 to size do
                flags(i) := true;                (set flag array)
           for i := 0 to size do
                if flags (i) then begin          (found one)
                     prime := i + i + 3;
                     k := i + prime;             (kill multiples)
                     while k <= size do begin
                          flags(k) :=false;      (in flag array)
                          k := k + prime;
                     end;
                     count := count + 1          (and count)
                end;
      end;
      writein (count,' primes')                  (end signal)
end.
```

Go ahead. Even if you are Basically not familiar with Pascal (ho ho ho), you shouldn't have much trouble reading this. Note that there is practically no arithmetic - just a little bit of integer addition. The bulk of the program is indexing through the list of numbers, and testing or setting the flags. All of the programs report the same answer, of course (1899 primes, not counting 1 and 2). This program (ten repetitions, remember) is called SIEVE in the table. Times varied from 4.5 to 2844 seconds (a factor of over 600!).

Anyway, given these two benchmarks, here are the times I obtained (all tests were run

personally). Times are in seconds.

SIEVE	FLOAT	System (hardware, language etc.)
2844	176	Good old Applesoft
202	169	TASC (compiled Applesoft)
790	49	Applesoft + Accelerator
56	47	TASC + Accelerator
2790	30	Applesoft + ALF 8088 (5MHz)
193	21	TASC + ALF 8088 card
2380	163	Z-80 card (4MHz) MBASIC
36	149	ditto, BASCOM complier
27	149	ditto, F80 Fortran compiler
510	315	Apple (6502) Pascal
142	88	Apple Pascal + Accelerator
77	51	Saybrook 68000 Pascal
79	52	ditto, Basic (P-code)
81	52	ditto, Fortran (P-code)
77	28	ditto, Pascal single precision
77	51	Sage IV 68000 Pascal (P-code)
4.5	22	ditto, CPM68 Fortran (native)
1830	57	IBM PC (8088-5MHz) BASICA
-	45	Zenith (8088-5MHz) ZBASIC
-	87	Zenith (8085-5MHz) MBASIC
2290	683	TRS80 Model 100 (MBasic)

(The Sage and Zenith results were made possible with the cooperation of the dealer, DIGTZ, 3015 Hillsborough Street, Raleigh, North Carolina, who let me use the systems.)

Some commetnts are in order. First, the Saybrook 68000 card (made by Analytical Engines) is a brand new device that fits inside the Apple, has 128K of RAM (expandable to 512K on the card, but the UCSD P-System can't address any more than what I have now), and runs rev. IV.1 of the Softech version of UCSD Pascal. It comes with the BASIC and Fortran, as well as Pascal compilers. I have had mine for several months now, and although there were some initial hardware problems, the company was quite cooperative, and everything is now working just fine. The 68000 runs at 8 MHz, the same as the Sage IV (which is a moderately well known hot shot microcomputer). Since both run the same P-system software, I was not too surprised to see that the times (and the residual error values) were absolutely identical. It means that I have a private SAGE tucked away on a single card in my Apple. There are several other manufacturer's devices that should be comparable (eg. Acorn, PDQ), but I have not tested them.

The normal P-system for the Saybrook is 8-byte precision (double precision), but they also supply single (6 digit) precision (like the Apple version of the software). The times are substantially better for the single precision. Also, since the BASIC and Fortran Compilers under the P-system produce P-code (which in fact can be linked with code from the other compilers), the times for the BASIC and Fortran versions are not different from the Pascal results. Presumeably the single precision Fortran (which I didn't try) would be much like the single precision Pascal, as well.

The SAGE 68000 Fortran compiler is different, however. This runs under Digital Research's CPM68K, and produces native code. It is a good bit faster than the P-code, but how well optimized this compiler is for the 68000 is still an open question. In any case, the times serves for comparison to the others. Adding this software to my Saybrook card is clearly a priority!

Note that MBASIC (and the TRS80 Microsoft BASIC) allows variables to be designated as

integers, and that accounts for the improvement in SIEVE time compared to Applesoft, which carries out all arithmetic using floating point numbers, even if they are declared as integers. In fact, using declared integers (ie. N%) in Applesoft actually slows the system down, since the numbers must be converted to floating point for arithmetic, and then the answer converted back to an integer for storage. The only advantage in using integers is that for arrays such as FL%(8191) it saves storage space (two bytes per value instead of five).

As far as the Z-80 (and 8085) machines are concerned, the interpreter times are neither too bad nor too good. The Model 100 (80C85) is slow, but then it runs at only 2.4 MHz. Of course, this portable is the only one that can run at all while riding a bicycle. Incidentally, while the Model 100 does do true integer arithmetic (and strangely, is faster than the 4 MHz Z80 MBASIC in SIEVE), it performs all floating point calculations in double precision (which also slows it down). Declaring variables as single precision causes truncation after calculations, and may save some storage space but no time.

There are 6 MHz Z80 cards available for the Apple, and they should give a proportionate time improvement over the 4 MHz model I have. In an earlier review, I noted that BASCCM produces native Z80 code which is essentially identical in speed with the Microsoft F80 Fortran compiler (and indeed can by linked with it). Here we see that the SIEVE program is very fast indeed (yes, it really is 10 iterations) when compiled into native code. The Fortran is faster than the Basic because it allows single byte logical variables, whereas Basic works with 2 byte integers.

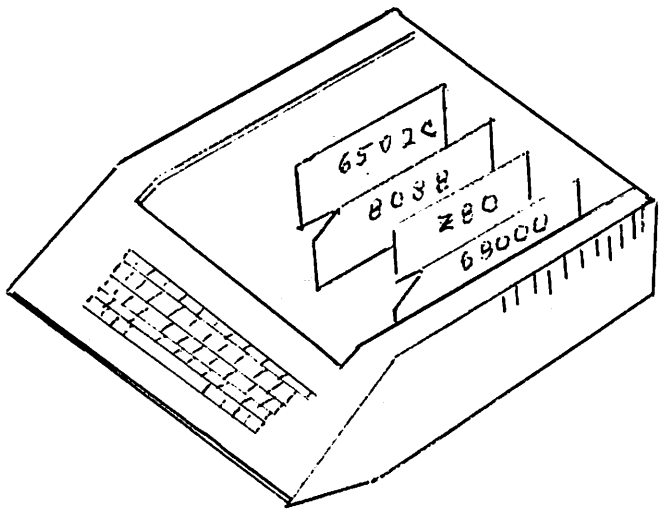
The floating point calculations, as noted before, are about the same for interpreted or compiler MBasic, or for compiled Fortran. The same thing is true for Applesoft and the TASC compiler. These benchmarks show clearly that for floating point arithmetic, compilation just doesn't help at all. This is because the compiled program uses exactly the same subroutines (for instance, in the Applesoft ROMs) for calculations, and the only speedup is due to slight improvements in figuring out the addresses for storing the numbers afterwords. Of course, compiling the Applesoft using TASC makes a significant difference -more than a factor of 14 - in SIEVE, where the ability to perform integer arithmetic and improve comparisons and branches really pays off! This is similar to, but less pronounced than the case for BASCOM, because the latter compiler produces direct machine code instead of subroutine calls.

The role of the ALF 8088 card has the opposite effect, as compared to compilation. This co-processor card is used to replace the floating point arithmetic in Applesoft with calls to the card, which then calculates and returns the answers. Previous tests indicated that it was very similar in speed, with greater precision (the usual Applesoft 9 digits) and flexibility (other utility routines including a speed patch for Apple Pascal, and the ability to run MSDOS or CPM86 on the Apple are available now) than dedicated co-processor cards using the AM-9511 device (there are 2 or 3 on the market, with patches for Applesoft and Apple Pascal, and a Forth-like language called MicroSpeed, which I have reviewed, somewhat negatively, before). The ALF card can't speed up SIEVE at all, because it hardly gets used (just for addition). But the FLOAT program speeds up substantially. In fact, compiled Applesoft using the ALF card gives as fast a time as the 68000 using native code compiled from Fortran! Clearly, if your programs spend a lot of time performing arithmetic, especially complex transcendental computations, the ALF card is worth having.

Another conclusion we can draw from the table is the fact that Pascal is not really all that fast, at least in its P-code versions. This is particularly true when transcendental arithmetic is required. The language doesn't really include the transcendentals; they are in a separate library UNIT (although rev. IV.1 is smart enough to link it automatically) and are largely written in P-code themselves (in rev IV.1). The Apple Pascal system (based on rev. II.1) is faster than Softech's IV.1 for a variety of reasons, of which one is that the subroutines that Apple Pascal uses for such

computations are actually just the same as in the Applesoft Basic language (except that the extra digits of precision are thrown away by Pascal). This suggests that even rather powerful machines such as the Analytical Engines Saybrook card, or the SAGE IV, are not well suited to scientific calculations (or, in my opinion, anything else that requires the speed of the 68000 or its addressing range) if they must be throttled by the UCSD P-code system. I look forward to getting CPM68K for my Saybrook (it also has the advantage of managing more memory than the P-system), and hopefully the hardware floating point math chip, when it becomes available some day. A really optimized native code compiler can do amazing things with this "superchip".

The table also suggests that the 8088 is not all that wonderful a processor. This psuedo-16 bit processor running at 5 MHz is no faster than the good old 6502 honest 8-bit processor running at 3.6 (in the Accelerator). Of course, an 8087 (hardware arithmetic chip) can be added to these machines (when the software becomes available to support it), which should speed up FLOAT. On the other hand, one can also be added to the ALF card (it is available now, with support software for Applesoft, but I don't have it yet). The IBM PC and its clones compare poorly, overall, to what can be done with the Apple (admittedly with a little help). It still looks like the combination of using the ALF 8088 (with or without an 8087) for arithmetic, and a 6502 for everything else, is the best way for heavy duty number crunching. I have not yet managed to make the Accelerator (3.6 MHz 6502) run with the ALF 8088/8087 but it seems possible in principle, and that combination supports the flexibility of interpreted Applesoft plus the speed of TASC-compiled routines. It should be really something! (Watch this space for further reports).



DOC APPLE'S

SOUPED-UP

APPLE

NORTHERN ILLINOIS APPLE USERS GROUP DISK LIBRARY INDEX 12/83 PAGE 36

** DISK VOLUME # 65 **

A DISK SUMMARY
BY JIM PFEIFFER
TYPE A LEN- 16 SECTORS
PROGRAM DISPLAYS DESCRIPTION OF PROGRAMS ON THE DISK AND ALLOWS FOR RUNNING OF A PROGRAM BY NUMBER SELECTION

ADVENTURE MAPS (FOR PRINTERS)
BY TED ROSEMAN (NIAUG MEMBER)
TYPE A LEN- 15 SECTORS
PRINTS A TOTAL OF 99 SQUARES (9X11). TO BE USED TO TRAIL YOUR WAY THROUGH THE ADVENTURE GAMES

ANOTHER BANNER PRINTING PROGRA
BY JAMES WIEDMAN (NIAUG MEMBER)
TYPE A LEN- 26 SECTORS
PRINTS LARGE LETTERS OR NUMBERS ON 80 COLUMN PAPER

APPLESOFT
TYPE I LEN- 7 SECTORS
NIAUG HELLO PROGRAM

BANNER PRINTER
BY PHIL BRYAN (NIAUG MEMBER)
TYPE B LEN- 20 SECTORS
PRINTS BANNERS WITH (OPTIONALLY) SMALL LETTER MESSAGES WITHIN THE LARGE LETTERS

BANNER PRINTER SOURCE (LISA)
BY PHIL BRYAN (NIAUG MEMBER)
TYPE T LEN- 39 SECTORS
SOURCE CODE FOR BANNER PRINTER. LISA FORMAT

CHARACTERS
BY LARRY CARR (NIAUG MEMBER)
TYPE T LEN- 5 SECTORS
EXAMPLE TEXT FILE FOR EAMON RESURRECTOR PROGRAMS.

CHARACTERS-COPY
BY LARRY CARR (NIAUG MEMBER)
TYPE T LEN- 5 SECTORS
COPY OF CHARACTERS EXAMPLE FILE

DARTS
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 7 SECTORS
A LOW-RES DART PROGRAM

DEMATERAILIZATION SIMULATION
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 17 SECTORS
WATCH K-9 AND THE TORTOISE DEMATERIALIZE

EAMON QUIK-RES
BY LARRY CARR (NIAUG MEMBER)
TYPE A LEN- 12 SECTORS
REQUIRES EAMON DISK #1 (MASTER DISK) IN 3.3 DOS. WILL RESURRECT A 'DEAD' CHARACTER IN 15-20 SECONDS.

EAMON RESURRECTOR
BY LARRY CARR (NIAUG MEMBER)
TYPE A LEN- 29 SECTORS
REQUIRES EAMON DISK #1 (MASTER DISK) IN 3.3 DOS. WILL RESURRECT 'DEAD' CHARACTERS IN THE 'EAMON' ADVENTURE SERIES. LIST ALL DEAD CHARACTERS TO BE RESURRECTED AND ALLOWS VARIOUS OPTIONS

EAMON RESURRECTOR INSTRUCTIONS
BY LARRY CARR (NIAUG MEMBER)
TYPE A LEN- 9 SECTORS
INSTRUCTIONS FOR EAMON RESURRECTOR AND EAMON QUIK-RES

** DISK VOLUME # 65 **

FILE DR$
BY JAMES WIEDMAN (NIAUG MEMBER)
TYPE A LEN- 17 SECTORS
MENU DRIVEN UTILITY PROGRAM TO PERFORM VARIOUS TASKS ON A SEQUENTIAL TEXT FILE. SEE INSTRUCTIONS FOR USE

FRAC-DEC(CONVERTOR)
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 3 SECTORS
CONVERTS FRACTIONS TO THE DECIMAL EQUIVALENT

HELLO
BY JOE ZEINZ
TYPE A LEN- 7 SECTORS
HELLO PROGRAM DISPLAYS NIAUG TITLE AND THEN RUNS 'A DISK SUMMARY'

HI-RES DARTS
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 9 SECTORS
A HI-RES DART PROGRAM

K-9 ESCAPE!
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 16 SECTORS
K-9 TRIES TO BATTLE ITS WAY TO THE TORTOISE

K-9 HELLO
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 4 SECTORS
HELLO PROGRAM FOR K-9 ESCAPE AND DEMATERAILIZATION SIMULATION

MAS$H THEME
BY KEVIN MORGAN (NIAUG MEMBER)
TYPE A LEN- 12 SECTORS
PLAYS THEN THEME MUSIC TO MASH

MAIL
BY JOE ZEINZ (NIAUG MEMBER)
TYPE A LEN- 5 SECTORS
MENU PROGRAM FOR MAIL. PROGRAMS

MAIL.ENTRY
BY JOE ZEINZ (NIAUG MEMBER)
TYPE A LEN- 25 SECTORS
ALLOWS YOU ENTER MAIL ADDRESS INFORMATION FOR LABELS. FILES CAN BE USED IN MAIL.PRINT OR MAIL.MERGE

MAIL.ENTRY.BIN
BY JOE ZEINZ (NIAUG MEMBER)
TYPE B LEN- 57 SECTORS
COMPILE VERSION OF MAIL.ENTRY

MAIL.MERGE
BY JOE ZEINZ (NIAUG MEMBER)
TYPE A LEN- 17 SECTORS
MERGES OR COPIES UP TO 3 MAIL FILES TOGETHER BY LAST NAME OR ZIP CODE. FILES MUST BE CREATED BY MAIL.ENTRY OR MAIL.ENTRY.BIN

MAIL.PRINT
BY JOE ZEINZ (NIAUG MEMBER)
TYPE A LEN- 24 SECTORS
PRINTS MAIL LABELS UP TO 3 ACROSS OR ADDRESS LIST USING AN EPSON MX80 PRINTER

NEW FILE
BY JAMES WIEDMAN (NIAUG MEMBER)
TYPE T LEN- 2 SECTORS
EXAMPLE FILE FOR FILE DR$

PRINT DEMO
BY MIKE MILLER (NIAUG MEMBER)
TYPE A LEN- 11 SECTORS
A PRINTER DEMO FOR AN EPSON MX-100

** DISK VOLUME # 65 **

SAMPLE
BY JAMES WIEDMAN (NIAUG MEMBER)
TYPE T LEN- 2 SECTORS
EXAMPLE FILE FOR FILE DR$

TITLE FILE
BY JAMES WIEDMAN (NIAUG MEMBER)
TYPE T LEN- 2 SECTORS
EXAMPLE FILE FOR FILE DR$

Z PROG.LIST
TYPE T LEN-
TEXT FILE FOR 'A DISK SUMMARY'

** DISK VOLUME # 66 **

A DISK SUMMARY
BY JIM PFEIFFER
TYPE A LEN- 16 SECTORS
DISPLAYS PROGRAM DESCRIPTIONS AND ALLOWS RUNNING OF A PROGRAM BY NUMBER SELECTION

APPLESOFT
TYPE I LEN- 6 SECTORS
NIAUG HELLO PROGRAM

AVE/STD DEV-9/25/83
BY MALCOLM DENNISE (NIAUG MEMBER)
TYPE A LEN- 29 SECTORS
CALCULATES AVERAGE & STANDARD DEVIATION. GRAPHS HISTOGRAMS WITH +/- 3 STD. DEVS.PRINTING- DATA CORRECTION AND FILING CAPABILITIES TOO

BAR GRAPH MAKER MENU
BY ALAN WEISS (NIAUG MEMBER)
TYPE A LEN- 3 SECTORS
MENU PROGRAM TO CREATE BAR GRAPHS

BODY FAT CALC
BY LARRY ERDMAN (NIAUG MEMBER)
TYPE A LEN- 19 SECTORS
CALCULATES PERCENTAGE OF BODY FAT DEPENDING ON AGE SEX AND VARIOUS BODY MEASUREMENTS

CAT PRINTER
BY LARRY ERDMAN (NIAUG MEMBER)
TYPE A LEN- 7 SECTORS
USING AN EPSON MX80 PRINTS DISK CATALOG WITH HEADERS

DUMP
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 15 SECTORS
GENERATES A HEX AND ASCII DUMP OF ANY FILE ON A SCREEN OR 80 COLUMN PRINTER

DUMP INSTRUCTIONS
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 5 SECTORS
INSTRUCTIONS FOR DUMP

HELLO
BY JOE ZEINZ
TYPE A LEN- 7 SECTORS
DISPLAYS NIAUG TITLE AND RUNS 'A DISK SUMMARY'

INPUT COMMA
BY ALAN WEISS (NIAUG MEMBER)
TYPE B LEN- 2 SECTORS
USED BY PLOT2 PLOTY AND MONTH

LOG
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE T LEN- 3 SECTORS
USED BY LOG PROGRAMS TO CREATE AND UPDATE TIME LOGS

NORTHERN ILLINOIS APPLE USERS GROUP DISK LIBRARY INDEX 12/83 PAGE 37

** DISK VOLUME # 66 **

LOG INSTRUCTIONS
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 5 SECTORS
INSTRUCTIONS FOR LOG PROGRAMS

LOG OFF
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 11 SECTORS
NEEDS THUNDERCLOCK OR COMPATIBLE CLOCK CARD. LOG OFF COMPLETES A LOG ON ENTRY

LOG ON
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 13 SECTORS
NEEDS THUNDERCLOCK OR COMPATIBLE CLOCK CARD. LOG ON STARTS A LOG ON ENTRY

LOG PARAMETERS
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE T LEN- 2 SECTORS
PARAMETER FILE FOR LOG PROGRAMS

LOG PRINT
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 11 SECTORS
PRINTS CONTENTS FOR LOG FILES. UP TO 16 CAN BE MAINTAINED SIMULTANEOUSLY

LOG START
BY LOGAN ZINTSMASTER (NIAUG MEMBER)
TYPE A LEN- 13 SECTORS
NEEDS THUNDERCLOCK OR COMPATIBLE CLOCK CARD TO HELP CREATE AND UPDATE A SET OF TIME LOGS

MONTH
BY ALAN WEISS (NIAUG MEMBER)
TYPE A LEN- 15 SECTORS
CREATES A HI-RES BAR GRAPH BY MONTHS

PLOT2
BY ALAN WEISS (NIAUG MEMBER)
TYPE A LEN- 12 SECTORS
CREATES A HI-RES BAR GRAPH

PLOTY
BY ALAN WEISS (NIAUG MEMBER)
TYPE A LEN- 12 SECTORS
CREATES A HI-RES BAR GRAPH BY YEARS

PLURAL NOUNS
BY MARLYS NEWCOME (NIAUG MEMBER)
TYPE A LEN- 36 SECTORS
ALLOWS STUDENT TO STUDY THE RULES FOR FORMING PLURAL NOUNS. IDS 440 PRINTER WAS USED TO PRINT RULES WORKSHEETS AND ANSWER SHEETS

PLURALS
BY MARLYS NEWCOME (NIAUG MEMBER)
TYPE T LEN- 4 SECTORS
TEXT FILE USED WITH PLURAL NOUNS

SLIDER FILE SORTER
BY LEN MICHAELS (NIAUG MEMBER)
TYPE A LEN- 34 SECTORS
UTILITY PROGRAM FOR SLIDER PROGRAM

SLIDER MENU
BY LEN MICHAELS (NIAUG MEMBER)
TYPE A LEN- 27 SECTORS
MENU PROGRAM FOR SLIDER PROGRAMS

SLIDER PROGRAM
BY LEN MICHAELS (NIAUG MEMBER)
TYPE A LEN- 26 SECTORS
PERFORMS FUNCTION OF A SLIDE PROJECTOR. RUNS CONTINUOUSLY OR MANUAL FLIPPING FORWARD OR BACKWARD

** DISK VOLUME # 66 **

TEST DATA 200/00/00
BY MALCOLM DENNISE (NIAUG MEMBER)
TYPE T LEN- 2 SECTORS
TEST DATA FOR AVE/STD DEC-9/25/83

TEST DATA00/00/00
BY MALCOLM DENNISE (NIAUG MEMBER)
TYPE T LEN- 2 SECTORS
TEST DATA FOR AVE/STD DEC-9/25/83

Z PROB.LIST
TYPE T LEN-
TEXT FILE USED BY 'A DISK SUMMARY'

SNOOPY
TYPE B LEN- 34 SECTORS
PICTURE EXAMPLE FOR SLIDER PROGRAM (SIDE 2)

SPACE
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE2)

AIRPORT TRAFFIC
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

TERM.PIX
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

REACTOR
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

MICKEY
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

II SALES/INCOME
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

THE BRAIN
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

LADY BE GOOD
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

MICROMETER
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

DIP CHIP
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

TIME
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

CHURCHILL
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

MOON
TYPE B LEN- 34 SECTORS
EXAMPLE PICTURE FOR SLIDER PROGRAM (SIDE 2)

** DISK VOLUME # 67 **

DRAW
BY MICHAEL FINK (NIAUG MEMBER)
TYPE A LEN-
EASY TO USE COMPUTER EASEL THAT DRAWS CIRCLES FILLS IN SHAPES WITH 44 COLORS. PRINTS CHARACTERS ON SCREEN (DOS TOOLKIT NEEDED). DRAW ANYTHING- ANY COLOR- ANY SIZE- ANYWHERE ON THE SREEN AND EVEN MOVE IT AROUND. (ASSORT. PROGRAMS)

NIAUG
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 8 SECTORS
EXAMPLE PICTURE - NIAUG LOGO

LOOP
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 7 SECTORS
EXAMPLE PICTURE - LOOP LOGO

WHET
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 9 SECTORS
EXAMPLE PICTURE WHET LOGO

WLS
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 9 SECTORS
EXAMPLE PICTURE - WLS LOGO

MTV
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 11 SECTORS
EXAMPLE PICTURE - MTV LOGO

AC/DC
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 6 SECTORS
EXAMPLE PICTURE

LED-ZEP
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 9 SECTORS
EXAMPLE PICTURE

LZ I
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 12 SECTORS
EXAMPLE PICTURE

SCORPS
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 4 SECTORS
EXAMPLE PICTURE

PINK FLOYD
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 10 SECTORS
EXAMPLE PICTURE

UFO
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 4 SECTORS
EXAMPLE PICTURE

AEROSMITH
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 6 SECTORS
EXAMPLE PICTURE

RUSH
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 7 SECTORS
EXAMPLE PICTURE

JUDAS PRIEST
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 7 SECTORS
EXAMPLE PICTURE

THE WHO
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 5 SECTORS
EXAMPLE PICTURE

NORTHERN ILLINOIS APPLE USERS GROUP DISK LIBRARY INDEX 12/83 PAGE 38

** DISK VOLUME # 67 **

MOUNTAIN
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 9 SECTORS
EXAMPLE PICTURE
CRAPS
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 14 SECTORS
EXAMPLE PICTURE - CRAP TABLE
WHO
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 9 SECTORS
EXAMPLE PICTURE - DR WHO LOGO
WHO 2
BY MICHAEL FINK (NIAUG MEMBER)
TYPE B LEN- 10 SECTORS
EXAMPLE PICTURE - DR WHO LOGO

** DISK VOLUME # 68 **

A DISK SUMMARY
BY JIM PFEIFFER
TYPE A LEN- 16 SECTORS
DISPLAYS PROGRAM DISCRIPTIONS AND RUNS PROGRAMS BY NUMBER SELECTION
APPLESOFT
TYPE I LEN- 7 SECTORS
NIAUG HELLO PROGRAM
BUILD A PROGRAM
BY LOREN AVENSON (NAIUG MEMBER)
TYPE A LEN- 58 SECTORS
THIS PROGRAM BUILDS A SKELETON PROGRAM TO ACCEPT / CONVERT DATES AND OPTIONALLY THE CODING FOR A USER DEFINED INDEXED SEQUENTIAL DISK
DOCUMENTATION FOR BUILD
BY LOREN AVENSON (NAIUG MEMBER)
TYPE A LEN- 34 SECTORS
INSTRUCTIONS FOR 'BUILD A PROGRAM'
HELLO
BY LOREN AVENSON (NIAUG MEMBER)
TYPE A LEN- 10 SECTORS
DISPLAYS NIAUG TITLE AND RUNS 'BUILD A PROGRAM'
INPUT-ROUTINE
BY LOREN AVENSON (NAIUG MEMBER)
TYPE A LEN- 4 SECTORS
USED WITH 'BUILD A PROGRAM'
INPUT-ROUTINE-DEMO
BY LOREN AVENSON (NAIUG MEMBER)
TYPE A LEN- 4 SECTORS
DEMO FOR 'BUILD A PROGRAM'
INVENT-FILE
BY LOREN AVENSON (NAIUG MEMBER)
TYPE T LEN- 9 SECTORS
USED BY INVENTORY-DEMO
INVENT-FILE.DEF
BY LOREN AVENSON (NAIUG MEMBER)
TYPE T LEN- 2 SECTORS
USED BY INVENTORY-DEMO
INVENT-FILE.KEY
BY LOREN AVENSON (NAIUG MEMBER)
TYPE T LEN- 3 SECTORS
USED BY INVENTORY-DEMO
INVENTORY-DEMO
BY LOREN AVENSON (NAIUG MEMBER)
TYPE A LEN- 42 SECTORS
INVENTORY DEMO PROGRAM CREATED BY 'BUILD A PROGRAM'

** DISK VOLUME # 68 **

SORT KEY FILE
BY LOREN AVENSON (NAIUG MEMBER)
TYPE A LEN- 9 SECTORS
USED WITH 'BUILD A PROGRAM'
Z PROG.LIST
TYPE T LEN-
TEXT FILE FOR 'A DISK SUMMARY'

** DISK VOLUME # 69 **

ALBERTS' ARCADE 1
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
THREE ARCADE GAMES MADE WITH BRODERBUND SOFTWARES 'ARCADE MACHINE'. GAMES ARE BEACH-HEAD - WESTWARD HO! - SHARK BAIT

** DISK VOLUME # 70 **

ALBERTS' ARCADE 2
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
THREE ARCADE GAMES MADE WITH BRODERBUND SOFTWARES 'ARCADE MACHINE'. GAMES ARE PT-6502 - STAR STRIKE - ARCTIC PASSAGE

** DISK VOLUME # 71 **

ALBERTS' ARCADE 3
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
THREE ARCADE GAMES MADE WITH BRODERBUND SOFTWARES 'ARCADE MACHINE'. GAMES ARE FIREGROUND - BEE CRUNCH - POACHER WARS

** DISK VOLUME # 72 **

ALBERTS' ARCADE 4
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
THREE ARCADE GAMES MADE WITH BRODERBUND SOFTWARES 'ARCADE MACHINE'. GAMES ARE SILENT NIGHT - BIG-MAC ATTACK - KING TUTS' REVENGE

** DISK VOLUME # 73 **

ALBERTS' ARCADE 5
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
THREE ARCADE GAMES MADE WITH BRODERBUND SOFTWARES 'ARCADE MACHINE'. GAMES ARE BEACH PARTY - REVENGEFUL RABBIT - TOMB OF DOOM

** DISK VOLUME # 74 **

FIREGROUND
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
ADVENTURE/ARCADE GAME WITH VOICE OUTPUT THROUGH THE APPLE SPEAKER. LOCATE YOUR FIRES THROUGH A MAZE OF STREETS ON SIDE 1 AND ADVANCE TO THE ARCADE ON SIDE 2

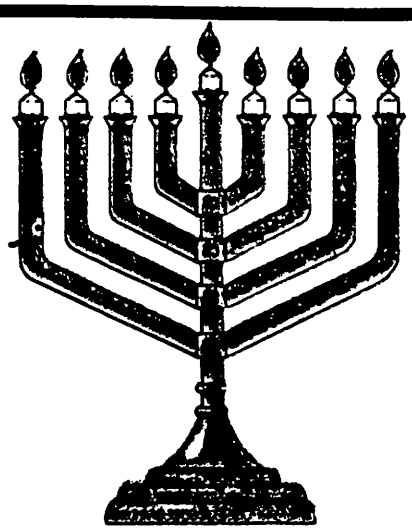
** DISK VOLUME # 75 **

KING TUTS' REVENGE
BY ALBERT LESIAK (NIAUG MEMBER)
TYPE LEN-
ADVENTURE/ARCADE GAME WITH VOICE OUTPUT THROUGH THE APPLE SPEAKER. FIND YOUR WAY THROUGH THE PYRAMID ON SIDE 1 AND ADVANCE TO THE ARCADE ON SIDE 2

** DISK VOLUME # 76 **

KINGS TREASURE
BY DAN FINK (NIAUG MEMBER)
TYPE LEN-
TEXT ADVENTURE GAME. FIND THE TREASURES IN THE CASTLE AND RETURN TO CIVILIZATION

SEASON'S GREETINGS



WORD LIST

1. CHRISTMAS
2. DECEMBER
3. SANTA
4. PRESENTS
5. SNOWMAN
6. MENORAH
7. EGGNOG
8. RUDOLPH
9. STOCKINGS
10. MISTLETOE
11. GELT
12. TURKEY
13. TREE
14. HANUKKAH
15. POINSETTIA
16. CHESTNUTS
17. WREATH
18. CAROLS
19. DREIDL
20. SNOW
21. HOLLY
22. REINDEER
23. CARDS
24. LATKES
25. NOEL
26. SKIING
27. FIREPLACE
28. SLEIGHRIDE
29. TOYS
30. SHOPPING
31. FRUITCAKE
32. COOKIES
33. BELLS
34. PINATA
35. DASHER
36. DANCER
37. PRANCER
38. VIXEN
39. COMET
40. CUPID
41. DONDER
42. BLITZEN
43. FAMILY
44. FRIENDS
45. WINTER

J X L F B L I T Z E N P O I T E M O C Q
H Y G T Z E M U H K S B E S W J J P N A
P E O D X B W F P A O R E M N V M C L L
S K G N I I K S S H V G N I P P O H S S
T R Y W J G H Y C B X B Z K I O D I Q T
U U C I J O O I F N L F R U I T C A K E
N T T N J T E X D M B H A K K U N A H E
T U P T I W F Z T U T Y E A Y M O E Y V
S U G E G N X Q H C T M X D L J P T V U
E N Q R I N B X R E J D U I A F R Y Q Q
H A C E I I X F A D R G V P V I E Q A N
C C L I D Q I S F I W Q A U N A C K U W
F R Y T J B D L S R W T Q C T H N L J N
E E E Y L X G S H H R Q C A B I A L S K
D C L H J X F H L G C O N I D J R C W J
A A X E S T O Z O I O I C L K R P Y X U
N L B Z O A Y L P E P Z I X F B E W D J
C P G X Q N D L D L R E B M E C E D G Q
E E Y R H K B D L S S E K T A L X P N X
R R K M B T D F Q O I G Q C V I X E N S
L I K A F D R F L L H D E Q X V C N P R
D F E G K I W W J N A M W O N S O T T D
I V R E E D N I E R W L Q H J T K C V O
E E E N S T K V S G N I K C O T S D N F
R X D Q G S B G B Z Y L K J C X F L V C
D S D X G I T P I G M K K Y B K A S I K
P B T X C X N N E T W M O U I G M D I K
S O L J R H M L E S R H H P L O I R N S
M Y E Y L P S F M S H E L O M N L A R Z
Z H G I L L L N I Y E T E I Z G Y C D R
G A N J Q O O J S S M R U N B G F N N E
E R S Z J D R K T N C V P S C E D Q K D
B O O H N U A U L X L P S E H T L N G N
V N D J K R C E E S P Y I T R M A L M O
E E D C T Q D J T N O J M T I W I I S D
K M H T A E R W O O L V T I S X K H N V
S E I K O O C N E W O Z Y A T T E B H E
R B P E Y W H Q I Q T N E M F V P S U
T H U W Y O Z J A T N A S K A E L E R N
Q E W Q O P P X X M U V W C S M E A Q E

COMPUTER GENERATED WORD PUZZLE

THE NEW APPLE DOS HAS ARRIVED - Well, Almost

by William C. Jacobson

When the //e was announced, I was disappointed that a new operating system was not introduced at the same time. After all, the venerable Apple DOS has been around for a long time, and it lacks many of the refinements and capabilities of newer operating systems.

A few months ago, I heard that Apple was in the process of rectifying this oversight and a new, Unix-type operating system was about to be released. A conversation with the marketing staff of Quark, Incorporated -- a software development firm that produces many fine programs for the Apple /// -- confirmed these rumors. Quark planned to use the new operating system for an Apple //e version of their Word Juggler word processing package. They were simply waiting for a formal announcement from Apple to ship this software to dealers.

Thus I was not surprised that the copy of Word Juggler I received from Quark uses a system called "ProDOS Version 1.0." Nor was I shocked to discover that ProDOS is, as Quark describes it, a "whittled down version of the SOS (sophisticated operating system) used on the Apple ///."

Apple reportedly will not distribute ProDOS system disks and manuals until early next year, so a full analysis of the capabilities and deficiencies of this operating system lies awaiting. In the absence of more complete documentation on the system, I will regale you with what little I can derive from the Word Juggler manual, use of the program, and insights gained through considerable experience with SOS for the Apple /// (I am an ex-owner of that much maligned system). Although the ProDOS specifications provided by Quark are far from comprehensive, they at least provide some inkling of how the system operates.

THE KNOWNS

It is readily apparent that ProDOS preserves many of the conventions of SOS. It permits elaborate subdirectories of master and data files, and the naming of disk volumes. You may format and name a volume, and within that volume have multiple levels of directory information. For example, the volume for a school system budget office may be named "Budget1984", with a master directory name of "SecondarySchls" (note: only 15-characters are permitted per directory level). Subdirectories may then be created for each school and document, for instance "USGrant" and "Prelim.Review". This would then be listed as: "/Budget1984/SecondarySchls/USGrant/Prelim.Review." The drive default could be set at "/Budget1984/SecondarySchls" so that any documents created would automatically be assigned to these directory levels, and catalog displays would list only the documents so assigned.

ProDOS also permits drives to be addressed by number, as with Apple DOS. However, the convention in this case is ".Dn" -- e.g., ".D1" for drive one, with a file call being ".D1/File.name." A dot may used to separate words in a file name, as spaces are not allowed in ProDOS or SOS. Spaces are permitted in Apple DOS, and this has led to problems associated with "stray" spaces. I much prefer the "." method.

Like SOS, ProDOS is written in Pascal. The version of Pascal that is used presumably simplifies addressing the additional 64K of RAM (random access memory) on the Extended 80-Column Card produced by Apple. This feature also raises the issue of whether there is a memory capability larger than 128K in the future of the //e (Super //e?), with RAM being addressed in banks of 64K or more, depending on the capacity of the chips being used.

The use of Pascal also increases the size of disk volumes that are possible, as 8-megabytes is the limit for Pascal and 143K for Apple DOS. This increase is particularly advantageous for hard disk drive users, where the very restrictive Apple DOS volume limits are a real "pain."

The improved capabilities of ProDOS also raise the possibility of Apple releasing //e versions of their new UniFile and DuoFile floppy disk drives. These drives are identical to the 870K drives used on the Lisa computer, and soon to be offered for the Apple ///. They reportedly provide much faster data access as well as vastly superior disk storage.

Some of the problems of SOS have apparently been dealt with in ProDOS. In SOS, for example, you must boot a separate utility disk for formatting new disks and other utilities. This means that you must keep a supply of formatted disks on hand, or suffer the inconvenience and potential other problem of having to exit a program, boot the utility disk, exit that and reboot the program disk. On the Word Juggler disk, built-in utilities are provided for disk formatting and other purposes.

On the Quark implementation of ProDOS, date and time stamping of file directories is not possible, unless a Thunderclock is present. Manual entry of date/time information is an excellent feature on SOS, and it would be unfortunate if this were not available for ProDOS.

In order to make hard copy printouts of SOS file directories, you also must boot a separate utility disk. With ProDOS this is not necessary. While in the catalog mode, you simply precede the drive number designation (e.g., ".d1") with an exclamation point, and the directory is printed out.

THE UNKNOWNS

There are a number of significant questions that cannot be answered without access to the ProDOS system utilities and manual, including the following:

The availability of compilers/interpreters for BASIC, PASCAL and other languages in the ProDOS format. I must assume that new versions of these languages will be marketed and that they will be variations of those currently available for SOS.

The capacity to easily modify printer, console and other drivers, using various system utilities. SOS has superb utilities for making extensive changes to standard drivers. However, the Apple /// is not as Read Only Memory (ROM) dependent as the Apple //e and thus is much easier to customize from an I/O standpoint. Apple may be able to emulate some of these capabilities on the //e through a hardware device.

The extent to which ProDOS can be used on Apple //+ or earlier computers. Word Juggler is designed for the

keyboard of the //e, but that may be a programming decision rather than technical limitation. ProDOS presumably can operate with 64K or 128K of RAM, although Quark recommends 128K for Word Juggler. Anything less than 128K severely restricts the size of the file that can be entered into memory during the document creation, editing and printing processes.

The capabilities of ProDOS-based //e's to interact with the Lisa system. If ProDOS is a Unix compatible system, then some networking should be possible. Guesses on the extent and limitations of such a setup would be pure conjecture.

It is unfortunate that ProDOS adds yet another disk format procedure -- the others being DOS, Pascal and CP/M -- to further confuse floppy disk users. But such is the price of "progress", I guess.

WORD JUGGLER

This program was originally released in 1981 as one of only two word processing packages written in SOS for the Apple ///. The other was Apple Writer ///. A complimentary program is Lexicheck, a spelling checker that contains a 50,000 word dictionary. The Apple //e versions of both Word Juggler and Lexicheck, according to Quark, retain all of the features of the original Apple /// versions.

The list prices of Word Juggler and Lexicheck are, respectively, $239 and $129. Substantial discounts probably will be offered by dealers and mail order firms.

In order to accommodate some of the function key sequences described below, Quark provides a "keyboard enhancer circuit card" into which the standard Apple keyboard connector is plugged.

DOCUMENT SIZE. There is a limit of 785 "lines" of information. It is not clear how a line is defined, but presumably it represents a screen line of any length. For example, pressing the return key while at the beginning of a line (i.e., with no other data on that line) counts as a line of text. Assuming a standard 54 lines of text per page of output, about 15 pages of data could be stored in memory. Provision is made for "inserting" other documents into the text at print time, so that much longer documents may be strung together and printed consecutively.

TEXT FILE TRANSFERS. Utilities are provided for reading Apple DOS and Pascal text files into Word Juggler, but no provision is made to reverse this process. Hopefully, such utilities are provided with the ProDOS system disks released by Apple. In addition, any SOS (Apple ///) text files can be read simply by preceding the file name with an asterisk. I transferred text files of each type, and encountered no problems.

SCREEN FEATURES. In the document create mode, the screen is blank except for information at the bottom of the screen on cursor location (line and column) and remaining memory. You are initially in the insert mode (i.e., text is entered without overstriking any characters that already may exist in memory). Character entry is extremely crisp and fast typists should encounter no problems. Usable screen display area is 80 characters wide and 22 lines in height. The text display is not adjustable, therefore it does not have "what you see is what you get" capabilities. You can preview a printed document by pressing Control-O, and text in memory will be formatted and displayed on the screen.

CURSOR MOVEMENT. The arrow keys of the //e or the Control-S,E,D and X sequence may be used for standard line and character-by-character movement of the cursor. Combinations of the Shift, Control and arrow keys may be used for other cursor "jumping" operations.

FUNCTION KEYS. While menu screens are used for some functions, Word Juggler relies mostly on a "function key" arrangement for special command execution. Because the //e does not have separate function keys, this means that combinations of keys must be used as substitutes. The Escape, Control, Open Apple and Closed Apple keys are used for different types of commands. For example, Escape in combination with the number and special character keys at the top of the keyboard is used for imbedding document formatting commands (margins, justification, etc.) in the text. The Control key is used in combination with others for various editing functions, such as character, paragraph, line and character delete; block copy, move and delete, etc.

Quark has attempted to compensate for this proliferation of special commands by supplying replacement key caps with commands printed on them for the "Control" related commands, and a template that is placed above the keyboard for the "Escape" related commands. There are many other commands that are not listed on the special key caps or the template. I found this arrangement to be somewhat complicated at first, but my problems disappeared as soon as I became familiar with each procedure.

FORM LETTERS. The built-in form letter function is excellent. Variables can be assigned very easily, and conditional "IF/THEN/ELSE" statements can be nested 127 levels deep. Because of the text file transfer utilities mentioned above, almost any DBMS can be used to create a compatible address file.

In addition, other utilities are provided to access existing Quick File and PFS data bases. You create or load a form letter into memory, and while in the document mode press the "Open Apple-1" keys. You are then asked the source of the data file. If you select Quick File, insert the appropriate data disk in drive ".D1" and press Return. The list of files on the Quick File disk is displayed. After you have selected the correct file, form letter printing begins. The data records you wish printed may be defined in "IF/THEN/ELSE" conditions listed in the text of the form letter. This is one of the most versatile and easy to use form letter functions that I have encountered.

ERROR HANDLING. Try as I might, I could not get the program to "bomb" or hang. Error protection appears to be excellent.

PRINTING. Several output default settings are available. In addition, "dot-type" commands and control characters may be imbedded in the text. For instance, the left margin setting may be changed by pressing "Escape-(", as indicated on the template provided, and then entering the new setting (e.g., 10 for ten columns from the far left margin). The term "Left Margin-10" will be displayed on the screen in inverse video. This is a very easy "dot" command feature to use, and the listing of the function in inverse makes it simple to spot active commands and make modifications. The entire document or selected pages may be printed.

Custom drivers are provided only for the most popular printers; however, instructions are included on how to create or modify printer "filters", as defined by Quark, using assembly language programming. Assembly code listings are provided for the Epson and Apple matrix dot printers, to facilitate changes to those drivers and serve as a tutorial for similar modifications for other printers.

SPELLING CHECKER. The Lexicheck program will operate only in conjunction with Word Juggler. While the latter will function with only 64K of RAM -- albeit with extremely limited edit work space, Lexicheck requires a full 128K. Simply place the Lexicheck disk in the first drive of a two drive system and enter Open Apple-7. A screen of options will then be displayed. These options permit one to change some defaults and to add a supplemental user prepared dictionary to the spelling check operation. Press the Return key, and the document in memory will be checked. All words are checked alphabetically. The operation is quick and appears to be quite thorough.

Once all words have been verified, a numeric summary of words checked, unique words and unrecognized words will be displayed. To correct any misspelled words, press the Space key. The text screen containing the word will then be shown, with the word in question displayed in inverse video. To ignore a word, press the Space key once again and the next word will be displayed.

To correct a word, press the Return key and you will be invited to type in the correct spelling of the word. Once this has been done, simply press the Return key again, and the correction will be entered and the next misspelled word, if any, will be shown. If you want to add a given word to a supplemental dictionary, press the Control and Space keys at the same time.

Lexicheck is an excellent program, and it interacts superbly with Word Juggler.

SUMMARY

While Word Juggler lacks some of the refinements of WordStar, Palantir, Benchmark, Final Word and other CP/M based word processors, it should be a highly competent performer for most purposes. Its limited edit screen work space makes it somewhat inconvenient for long reports, but Word Juggler's other features should make it very attractive for small to medium sized businesses, as well as for other professional and home uses.

APPLE HAPPENINGS

by Terry Tufts

XMAS PROMOTION

Christmas is fast approaching and is the big time of the year for Apple IIe sales. The IBM PC has been cleaning up in the business market and this has had a big impact on Apple's sales and there is strong evidence that Apple regrets welcoming IBM into the market. (Bite your tongue Steve Jobs). Apple needs all the business that it can get from the Apple IIE, its major money producer. Its strategy for Christmas season is to emphasize software and other add-ons rather than reducing the price of the basic computer.

With each purchase of an Apple IIe or III they are offering $1400 worth of rebate certificates, valid through July 31, for more than 90 home and business products.

For the Christmas season they also have reduced the price of Apple Logo from $175 to $100. In addition Apple retailers are giving customers free copies of the Apple Logo Tool Kit and sample program disks.

FOR THE SCHOOLS

Apple is offering a 30 discount to schools as well as a free machine for each 5 or 6 machines purchased. Any one in this market can get further details from their friendly Apple dealer.

SUPPORT FOR MS-DOS

Apple has agreed to run a co-marketing program to support the Rana 8086/2 System. This system consists of a dual 360k disk drives and an 8086, 16 bit micro-processor, and 256k of memory. (Rumored price is $1500). This co-processor will run MS-DOS, to run software written for the IBM PC and other IBM lookalikes. It will also run applications written in Apple-DOS and PRO-DOS.

How effectively it will run these programs will remain to be seen. There are many machines that claim to be IBM compatible and most will not run all the programs written for the IBM PC until they have been customized.

The QUAD-LINK card, intended as a co-processor in the IBM PC, to run Applesoft programs on the IBM PC is apparently less than successful. It can not cope with many of the the disk protection techniques use on the Apple. Data written on the half track stops it dead. It also is defeated by programs that use many peeks and pokes. Perhaps this will be a problem on a disk drive that is essentially designed to be identical to those used by IBM. If this is true, new Apple IIe buyers will be forced to buy Apple drives as well as the Rana option if they intend to take advantage of the many Apple programs.

In any case it is likely that software houses, that have flocked to write programs for the IBM, will find sufficient economic incentive to encourage them to modify their programs to work on the Apple.

CONVERSELY SPEAKING

Anyone who uses their Apple for much serious work has had reason to curse disk protection and too many articles have been written on the

pros and cons of protected software (with little appreciable affect). Wouldn't it be ironic if, in trying to protect their economic self interests, the Apple software houses lock themselves out of a potentially lucrative IBM PC market by using the protection methods that defeat an innovative card such as the Quadlink.

APPLE IIe MANUALS

If you were one of the early buyers of the IIe, who got certificates for later redemption for manuals, dig them out and present them to your friendly dealer as they now are available.

THE APPLE USERS DILEMMA

by Terry Tufts

We all have been reading about Apple's upcoming new product releases. The most important of these, the Macintosh, is about to become a reality. We got a slight look at the potential power of this machine when we saw the demonstration of the PDQ 68000 card. Its probably fair to guess that the Macintosh will have a much improved, (much larger capacity) disk drive in place of the now inadequate drives that come on the Apple IIe. Hopefully it will have a detachable and complete keyboard with programmable function keys and support a standard hard disk system. With a little luck it will also emulate MS-DOS so that the large amount of new software for 16 bit machines, principally the IBM PC, can be utilized. (The IBM PC is not notably impressive but 16 bit software packages that access much larger memory sizes are).

These are just modest expectations. I expect that the machine will have many more features than i have listed.

But what is the dilemma?? Should an owner of an Apple II or higher get the same capability by add ons or buy a completely new machine?? Lets explore the options.

The PDQ or Saybrook card come with a starting RAM memory of 256k. This memory is on board with the 68000 microprocessor and is not normally accessible to the regular Apple microprocessor. It is fairly difficult for co-processors to access all the slots and regular RAM memory in the Apple because of limitations on its bus so most additions are a compromise. This is somewhat inefficient but retrofits usually are. Either of the two cards will cost you about $1000 dollars. If Apple releases an MS DOS Emulator for the Lisa then it likely will be available for the Macintosh or for the 68000 coprocessor cards such as the PDQ or Saybrook. This will cost a few hundred dollays at least.

Another possibility to get the capability of MS-DOS on the Apple II is to buy the forth coming Rana product that consists of an 8086 co-processor, 256k of memory expandable to 512k and dual 360k drives. This will allow you to run MS-DOS (similar to IBM PC-DOS) compatible software and will cost a reported $1500.

The Rana option will give respectable disk capacity, in comparison with what you get now from Apple, but certainly is not state of the art. Rana is offering 3.2k, 5 1/2 inch drives for certain applications. One wonders why they chose the rather mundane route that was taken by IBM.

Apple's new Pro-Dos will allow you to use hard disks and likely many of the hard disk vendors will jump at the chance to supply hard disk capabilities. Probably this will cost a minimum of $1500 to get a 10 megabytes of memory.

Well that just leaves the need for a decent keyboard. The keyboard should be detachable with about 102 keys. Hopefully it will not have the defects that mar the IBM keyboard. From my point of view the programmable function keys should be along the top of the keyboard, the keys should be standard IBM Selectric layout and the cursor positioning keys should be independent of the number pad so that it can be used with spread sheets, if so desired (the number lock function on the IBM PC keyboard so the number and cursor control function is combined, is an unfortunate design). Also the keys should all be programmable for those who wish to have extensive macro programming capabilities or to change to the DVORAK key configuration. This reprogrammable function would also allow one to use their favorite word processor commands without having to relearn different key assignments.

To my knowlege no one makes a keyboard with these features for the Apple but if an economic opportunity exists you can be sure someone will fill it. Existing detachable keyboards for the Apple II now cost from $150-300.

Well are you ready to move up to more power? Will you have to get rid of your favorite Apple II? In any case it looks like the Apple II, like a cat, is using one of its lives and it will not have to take back seat to any of newer upstart machines much longer.

APA + PLE = A GOOD MIX

by L.M. Erdman

In the HARVEST, Sept., 1983 the article on APPLESOFT editors reminded me of a discovery that I recently made. In writing some programs I was already using PLE when I wanted to load Apple's APA to merge two programs. After getting the programs together I forgot that I had just loaded APA, which I don't use very much, and invoked A PLE editor command. To my surprise PLE was still working.

I tried several other combinations of PLE and APA and they worked also. From the article in the HARVEST I learned why they both worked. PLE is loaded above the DOS buffers and APA below the buffers and there was no program conflict. The other lucky factors were that APA uses the ampersand and that PLE was loaded first.

If you have both programs and want the power of both 'RUN' PROGRAM LINE EDITOR and then 'RUN' LOADAPA and enjoy the best of both.

ODDS & ENDS, EVENS & MEANS

by Jim Glore

This quasi-regular column is intended to ramble over the entire range of Apple trivia from PEEKS to POKES, from odds to evens, from ends to means on the theory that one man's trivia is another's treasure.

We all probably know that HIRES page 1 goes from 8192-16383 ($2000-3FFF) and that HIRES page 2 from 16384-24576 ($4000-5FFF), but how many know that you can plot on a page not currently selected for display, then turn on the entire page at once producing 'instant' pictures. To accomplish this magical feat, POKE 230 ($E6) with 32 ($20) to use page 1 or 64 ($40) to use page 2 in an unseen mode. To display page 1, POKE -16299,0 (actually, any value may replace the zero); or POKE -16300,0 for page 2.

Did you know that scoring over 1,999,999 in David's Midnight Magic causes a BLUE "2" to appear next to the white numerals?

Perhaps the most commonly used CALL is CALL -936 ($FC58, 64600) which is the same as Applesoft HOME. Some other equally useful but somewhat less known are: -912 ($FC70, 64624) to scroll the display (ie, leave the cursor where it is but move all display lines up one); -868 ($FC9C, 64668) clear to end of line; -958 ($FC42, 64578) clear to end of page.

If you happen to have a ROM card as well as a ram card and you would like to have DOS look for the second language in some slot other than 0, use the following POKES. If you would like to make these changes permanent, simply INIT a new disc when the changes have been made.

POKE -23112, 128+romslot*16 ($A5B8)
POKE -23104, 129+romslot*16 ($A5C0)

If you try 3D0G to return to BASIC from the monitor and for some reason you don't get back, try 9E51G. DOS copies locations $9E51-9E7F into locations 3D0-3FF on boot-up and the higher addresses may survive whereas the lower ones might not.

Did you know that POKE 216,0 ($D8) will disable Applesoft's ONERR processing?

SIG BITS & BYTES

by Ken Falter

This column will attempt to inform you about the NIAUG Special Interest Groups, or SIGs - what they are doing, what they have planned, who to contact for information, etc.

SIGs are complementary to the general monthly NIAUG meetings. They provide an opportunity for enrichment, personal growth, involvement and closer contact with a small group of NIAUGers whose interests are similar to yours.

This month's column covers the Business, Education and Investment SIGs. If you are interested in helping form a new SIG, or have ideas about new SIGs that might be formed, call our SIG Coordinator, Harry Maran, at 764-1847. He will help bring together members with common interests to form a new SIG.

THE BUSINESS SIG

This SIG consists of business owners, managers, R&D folks and others interested in business applications. The SIG meets on the 4th Saturday of the month at the Mt. Prospect Public Library at 10:00 am. NOTE: There will be no meeting in December.

Typical meetings consist of two presentations: one on programming information or an application program, and the second on Visicalc. At the January 28, 1984 meeting, a SIG member will talk about DART, a management statistics program
and Harry Maram will present the PDQ 68000 Card.
In previous meetings, topics covered in addition to Visicalc include Visisched, Visitrend, Visiplot, Critical Path Methodology for project scheduling, inventory applications, and the use of PFS Report for an order entry, materials selection, scheduling and posting application.

Everyone in the SIG is a contributor and, as such, gains from each meeting. For further information, call Jack Gratz at 448-6548.

THE EDUCATION SIG

This SIG started out as a group of education-related folks, relatively new at programming, who were interested in learning more about the use of their computers.

The group has covered a broad range of topics, following up on virtually every suggestion of its members, ranging from a discussion of the use of text files to presentation of a Hi-res Poker game as a means to learn about graphics.

The SIG will NOT meet in December. The January meeting is on Tuesday, January 17, 1984 at Ann Baldridge's house, 260 Laurel Lane, Bloomingdale. At that meeting, the new Encyclopedia Britannica Educational Disk Series will be reviewed.

At its last meeting in November, the Koala Pad was presented, discussed and used by all. Its use, in conjunction with Flextext in producing illustrations along with text, as in instruction manuals, was demonstrated.

Newcomers to NIAUG as well as "old pros" are welcome to attend the SIG meetings. Bring a disk as programs written by the members are exchanged at many meetings. Call Ann Baldridge at 893-5468 or Phyllis Geren at 945-2624 for further information.

THE INVESTMENT SIG

This SIG is at a crossroads in its existence. From a membership of 25 at one time, it has dwindled to a core of 4-5 members. As a result, the SIG has become quite specialized in one aspect of investing.

The existing core group welcomes new members who are willing to participate in the program of the SIG. It could then expand to cover such other areas as Fundamentals, Portfolio Management and Analysis, Investment Services, Software Packages, Stocks, Bonds, Options, Commodities and any other topics of interest which the members are willing to work on. Any and all "investment minded"

CLUB NEWS

NIAUGers are welcome to help re-vitalize this SIG. Call Jim Bradshaw at 881-7000 for further information.

A final thought for the month
Anyone for a TEEN SIG, or a COMPUTER WIDOWS SIG????

NIAUG'S NEXT MEETING WILL BE Dec 3
In Room E106, Harper College

AGENDA

10:00-10:30am Opening Remarks/Election (Eric Stral)
10:30-11:15am Applesoft Compiler (TASC)Rich McNeil
11:15-11:30am Break
11:35-12:00pm Program Contest Winners(Jim Glore)
12:00-12:45pm Wico Apple Computer Interface Card (Joysticks, Trackballs & Mice) (George Dell)
12:30-12:50pm Mr. Apple
12:55- 1:00pm Parting Remarks

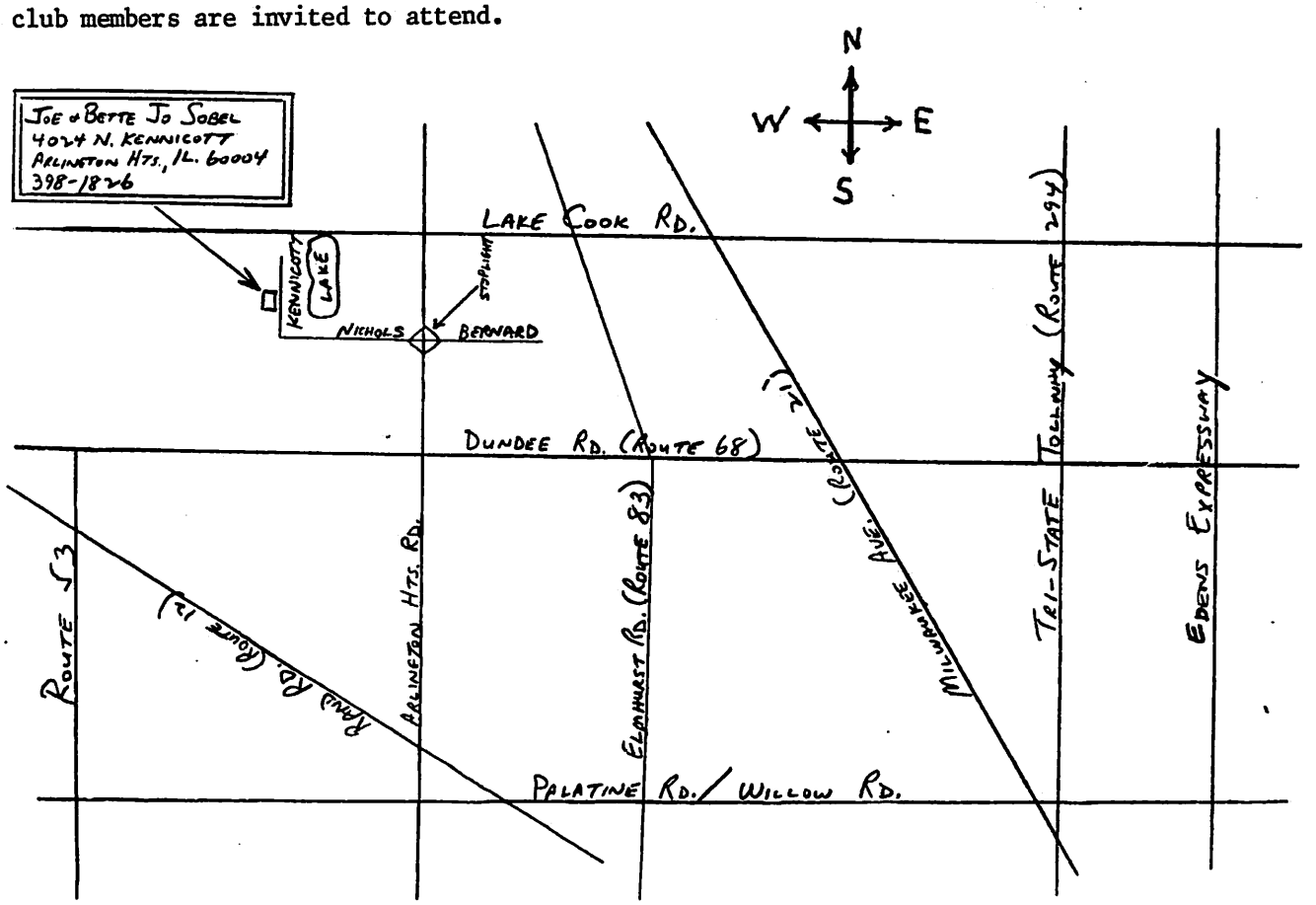
UNCLASSIFIED ADS

FOR SALE
Relocating linker program for use with relocatable object files produced by the DOS Toolkit assembler. Allows modular development of large assembly language programs. For information call Guy Lyle, 359-1458.

NIAUG PLANNING MEETING

The next Planning Meeting will be held at 7 pm at the home of Joe Sobel.

All club members are invited to attend.

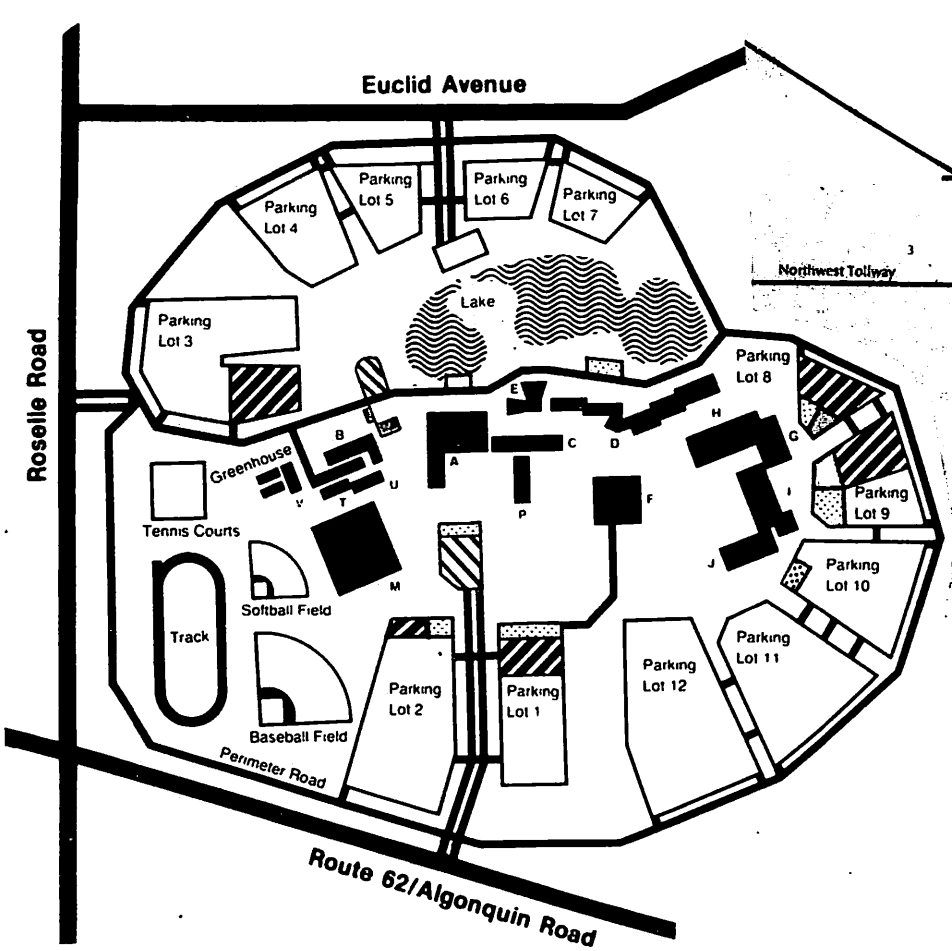


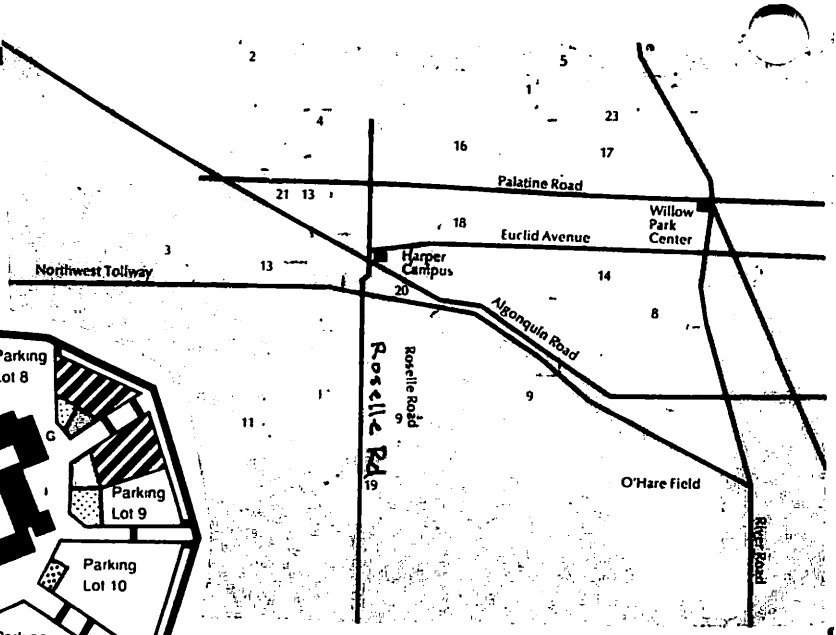
THE HARVEST NEWSLETTER
N.I.A.U.G.
1015 S. RIDGE AVE,
ARLINGTON HEIGHTS, IL.
60005.

BULK MAIL
US POSTAGE PA
PERMIT 170
MT PROSPECT IL

MICHAEL L ROBINS
22 FOXWOOD RUN
MIDDLETOWN, NJ 07748

POSTMASTER - CONTENTS DATED
- RETURN POSTAGE GUARANTEED
- FORWARDING REQUESTED
- ADDRESS CORRECTION REQUESTED





MEETINGS

Meetings are regularly held on the the second Saturday of each month unless otherwise noted in room E106 Harper College, Palatine, Il starting at 10:00am.